



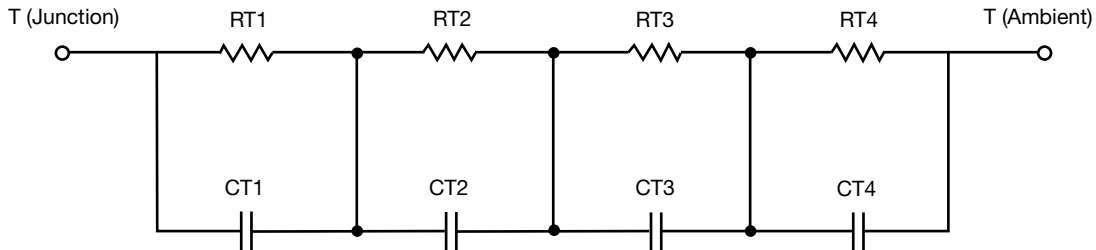
R-C Thermal Model Parameters

DESCRIPTION

The parametric values in the R-C thermal model have been derived using curve-fitting techniques. R-C values for the electrical circuit in the Foster/tank and Cauer/filter configurations are included. When implemented in P-SPICE, these values have matching characteristic curves to the single-pulse transient thermal impedance curves for the MOSFET.

These RC values can be used in the P-SPICE simulation to evaluate the thermal behavior of the MOSFET junction temperature under a defined power profile. These techniques are described in application note AN609, "Thermal Simulation of Power MOSFETs on the P-SPICE Platform".

R-C THERMAL MODEL FOR TANK CONFIGURATION



R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	11.3921	1.7058	N/A
RT2	4.8136	3.5064	N/A
RT3	13.9852	1.8190	N/A
RT4	39.8091	968.8000m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	2.1306	55.4454m	N/A
CT2	1.6223m	8.6255m	N/A
CT3	61.4776m	631.1498u	N/A
CT4	1.9255	199.6980m	N/A

Note

- n/a indicates not applicable

This document is intended as a SPICE modeling guideline and does not constitute a commercial product datasheet. Designers should refer to the appropriate datasheet of the same number for guaranteed specification limits.



R-C THERMAL MODEL FOR FILTER CONFIGURATION



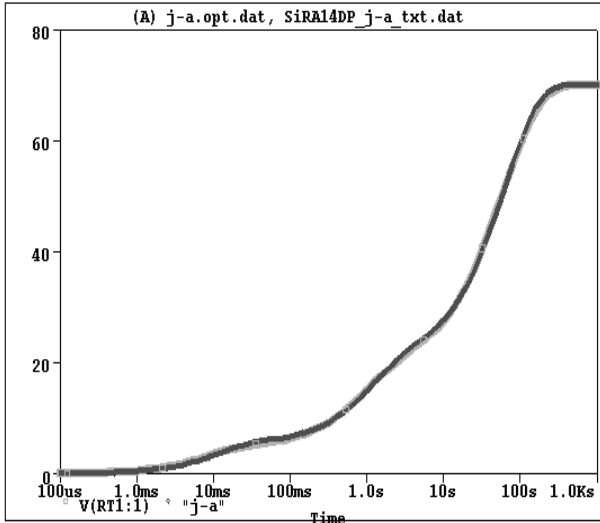
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	5.1460	2.1433	N/A
RF2	12.7057	4.5212	N/A
RF3	10.7936	1.0763	N/A
RF4	41.3547	259.2000m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	1.7151m	570.6850u	N/A
CF2	48.0443m	7.1908m	N/A
CF3	409.2127m	69.0229m	N/A
CF4	1.0920	1.4555	N/A

Note

- n/a indicates not applicable

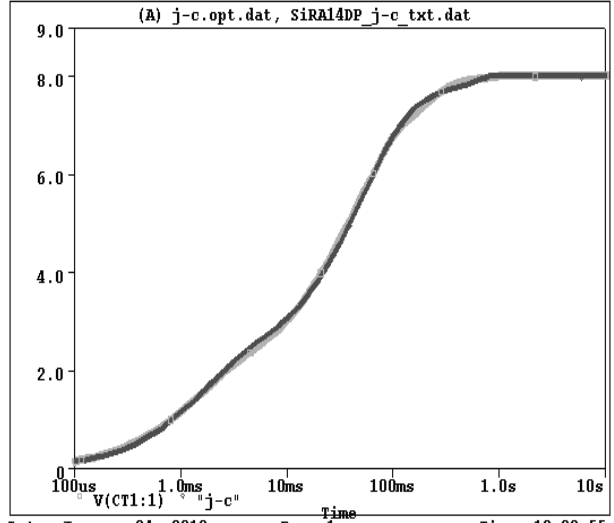


SiRA14DP Tank j-a Temperature: 27.0



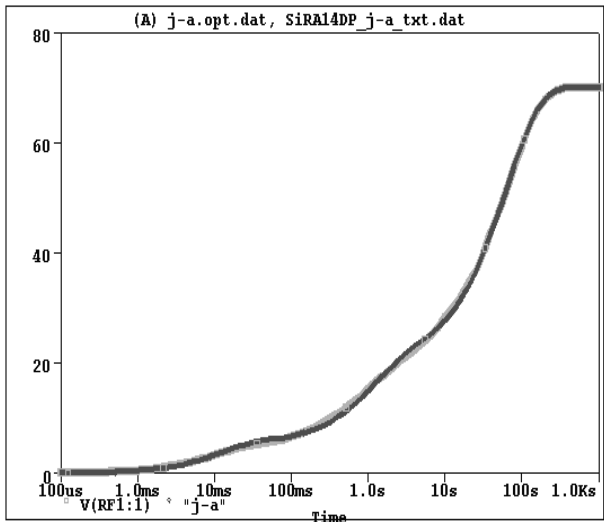
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SiRA14DP Tank j-c Temperature: 27.0



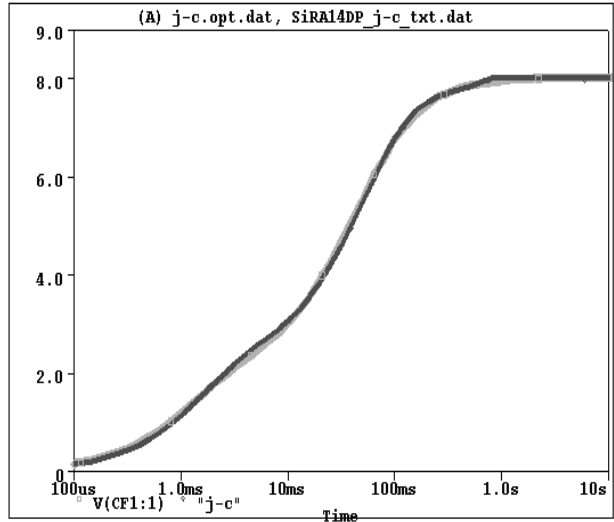
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SiRA14DP Filter j-a Temperature: 27.0



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SiRA14DP Filter j-c Temperature: 27.0



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